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A Bipartisan Capitol Blast for Reagan R&D Policies

William R. Graham, the President's new Science Adviser, went to Capitol Hill last week for the annual "posture hearing" on the nation's research and development efforts, and, under a bipartisan battering from skeptical Congressmen, wound up politically prone on the committee room floor.

A late arrival in a faltering Administration, the mild-mannered Graham drew no personal ire from the well-attended hearing, conducted by the rechristened House Science, Space, and Technology Committee—formerly just the Science and Technology Committee. But as the Administration's senior official for R&D affairs, Graham was the target of opportunity. And the members sailed into him, starting with the new, snappish Committee Chairman, Robert A. Roe (D-NJ), whose authoritative manner and grasp of substance contrasts sharply with the languid mode of his retired predecessor, Don Fuqua (D-Fla.).

At one point, as Graham waffled about in defense of the Administration's savaging of federally supported science-education programs, Roe exclaimed, "It boils my blood." Demanding of Graham, "Do you have kids?" the Chairman went into an angry soliloquy on the neglect of science education, and the importance of getting to the "kids in the third grade." Roe concluded with, "The greatest asset of all is human assets." Graham answered that the federal role in science education was under continual study

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Q&A: NIH Director Ranges Over Budgets, Fraud, Soviet Ties

James B. Wyngaarden, Director of the National Institutes of Health, spoke with SGR Editor Greenberg on January 2. Following is the text, edited by SGR.

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***SGR.** NIH's Congressional supporters are likely to block the Administration's proposal to take back some of the money you were appropriated last year, but even so, doesn't this put a lot of uncertainty into NIH's spending plans?*

Wyngaarden. The President's budget request contains a revision of the '87 budget which would defer spending authority for about $340 million into 1988 [which begins next October 1], and would request for 1988 a level identical with 1987. As a budget proposal, it may very well last the total period of deliberation of the '88 budget in Congress. It could run through the entire '87 fiscal year, or close to the end. If Congress were to approve it, then, obviously, we wouldn't spend this at all. If they don't, we would have to utilize this money toward the end of the fiscal year. So, we're making the appropriate conservative adjustments, deferring expenditure of that amount of money, which we would then have to utilize in a short time if the Congress didn't accept this [reduction].

Even with a reduction, we would have a substantial increase of about 10 percent between '86 and '87. But from '87 to '88 would be level. And whether or not Congress accepts that alteration of '87, the AIDS expenditures would be essentially protected.

***SGR.** NIH came through the first full year of Gramm-Rudman with a $1 billion increase—the biggest in NIH history.*

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In Brief

The White House Science Council, comprising a dozen sci-tech wisemen who are supposed to advise the President's Science Adviser, lives on with unchanged membership—despite having submitted pro-forma resignations when William R. Graham was appointed Adviser last fall. Chaired by Sol Buchsbaum, Vice President of AT&T Bell Labs, the Council has met twice since Graham's confirmation. At the most recent meeting, January 15-16, the Council was briefed on a Defense Science Board report that calls for the federal government to provide $250 million assistance for the slumping semiconductor industry.

The Pentagon's preeminent hardliner, Richard N. Perle, has been bad-mouthing the National Academy of Sciences' devastating study (see In Print, Page 8) of the crackpot controls Perle and company have imposed on US exporters—at an estimated annual cost of $9 billion in lost sales and some 190,000 jobs. But the study meshes nicely with Washington's trendy theme of competitiveness and is drawing wide interest. Academy officials have already given briefings on the report to Science Adviser Graham and Lt. Gen. Colin Powell, Deputy Director of the National Security Council.

Other high-level briefings on the export study are in the works. Still missing, however, is $100,000 that the Pentagon promised to contribute to the Academy study (SGR Vol. XVI, No. 16). In classic deadbeat fashion, Perle's office simply hasn't answered the Academy's requests for the pledged funds.

NSF grantees reaped $18 million in surplus government scientific equipment last year under NSF's Grantee Excess Property Program. For information about the program: Linda Oliphant, 202/357-7414.

. . . A Linkage of Trade, Education, Research Goals

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and was scheduled next year for additional funds in the National Science Foundation budget. With exasperation, Roe asked, "How long do you have to study it?"

Joining in the barrage against the Science Adviser were not only the Democrats, but also many Republicans, and together they created a tough two-and-a-half hours for Graham, the only witness of the day. What he was up against was the changing mood of national concerns as reflected in sharp questions about the Reagan Administration's massive shift of federal R&D toward military projects, which now absorb some 75 percent of all federal R&D—compared to just half in 1980. Of particular concern to many of the members was industrial competitiveness—the great new buzz word in political discourse and how, as they saw it, the Reagan Administration was rhetorically strong but financially indifferent to doing anything effective about it.

Noting that Japan and West Germany spend a far higher proportion of their R&D resources than the US on civilian objectives, Rep. Harris W. Fawell (R-Ill.) expressed doubt about American priorities and the old arguments that the civilian sector benefits from military spinoffs.

Graham responded that "definitional" problems distorted the appearance of the military-civilian R&D balance, and that the US remained strong in high-tech exports. Whereupon another Republican, Rep. Claudine Schneider, of Rhode Island, countered that "only a fraction of high-tech exports are civilian"; most of them, she said, involve military goods. Rep. Norman Mineta (D-Calif.) added his voice to concerns about the proportion of federal R&D going to the Pentagon. Referring to the "militarization of the NASA civilian program," Mineta said, "it's all getting a military twist."

The proceedings appeared to have a wearying effect on Science Adviser Graham. At one point, under questioning by Rep. Claudine Schneider, he addressed her as Mrs. Lloyd—a Democratic Committee member from Tennessee who had just minutes before lectured him about neglect of energy-conservation research. Responding to the mis-identification, Rep. Schneider gently said, "Not all Congresswomen look alike."

Members of both parties also queried Graham closely about national space policy—a subject clearly regarded as a disaster by Chairman Roe and others on the Committee. Rep. Bill Nelson (D-Fla.) demanded to know why revival of the shuttle was taking precedence over development of a new fleet of expendable launch vehicles. "We're in a difficult situation with launch capability," Graham blandly conceded. "You're a good soldier," Nelson responded as an indication of some sympathy for the Science Adviser's plight.

S&T Task Force Report Delayed

"In the spring" is now the estimated completion date for the final report of the Science Policy Task Force of the House Science and Technology Committee.

The report, based on hearings and studies that wound up a two-year run last spring, was originally scheduled for completion last summer, then was bumped to fall, and then to early this year. The Chairman of the Task Force, Rep. Don Fuqua (D-Fla.), has meanwhile retired from Congress, leaving behind his own personal conclusions and recommendations. They lack the official standing that will be attached to the final report, but given the long delay and the arrival of a new chairman, Rep. Robert Roe (D-NJ), the Task Force report is likely to have more scholarly value than political impact.

On the energy issue, Chairman Roe scoffed at Graham's assurance that "market forces" were the best device for assuring efficiency. "The Committee is going to look very closely at the energy issue," Roe announced, adding that the US "is sitting on a time bomb, waiting for the energy issue to erupt again."

The linkage of science education, civilian R&D, and industrial competitiveness was repeatedly sounded throughout the long hearing. Likening the unheeded warnings that preceded the Challenger disaster to current concerns about the nation's economy, Rep. Doug Walgren (D-Pa.) said, "The danger is that we'll have some gestures at the margins" rather than the costly measures that would be effective.

Graham answered that NSF would be doubling its science-education spending in fiscal 1988, to some $115 million. Walgren dryly noted that 15 years ago, NSF spent nearly double that amount on science education, that the Reagan Administration had abolished the

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. . . Neglect of Science Education Draws Heavy Fire

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Foundation's science-education programs, only to have them revived by Congress, and that NSF once spent over half its funds in this area, but now is down to six percent. Graham replied, "We should certainly be doing more."

A new member of the Committee, Rep. Constance Morella (R-Md.), brought up the question of the Pentagon's sudden interest in the manned space station—a project it previously shunned, and asked how this would affect NASA's efforts to attract foreign partners to the venture.

Graham tiptoed around that increasingly sensitive issue, stating that "peaceful purposes and national security support" are not incompatible. He added that he was certain that our allies understood that—but did not come to grips with the fact that Western Europe is very leery of getting involved with a US-dominated space station that comes with security restrictions.

Asked by several members about the status of the Superconducting Super Collider, Graham cautiously replied on each occasion that the decision was now before the President. Asked when it might be announced, he said, "Within the next few months and probably sooner than that." But he seemed so skittish about the subject that interest is warranted on his role and influence in the matter. By all accounts, Dr. Graham remains very much an outsider in a White House preoccupied with political survival.

The posture hearing can be regarded as a reliable precursor of science politics over the coming months. The budget, including the R&D segments, that the Administration submitted in skeleton form on January 5, and in the usual fine detail on January 28, has been aptly described as dead on arrival on Capitol Hill. Even last year, when the President was riding high and the Republicans controlled the Senate, Congress turned against the President, boosting the National Institutes of Health by a record $1 billion, trimming NSF, cutting the Pentagon's program for university-based research, as well as the President's sacrosanct Strategic Defense Initiative.

With the Democrats in full control of the Congress, and hordes of Republicans fleeing the leaky Reagan vessel, the odds are that the R&D budget will be radically rewritten to reflect national anxieties about industrial competitiveness, science education, health, environment, and energy. The R&D budget is big, up by 13 percent, to a total of $64.8 billion; of this amount, $9.1 billion is for basic research, a 4 percent increase over this year.

The total spending may not change, but the objectives surely will. Graham did as well as could be expected in his role as the spokesman for the old R&D policies. But those policies, though still adhered to by the White House, are increasingly out of touch with reality. They're going to be pounded all over Capitol Hill—and perhaps hardest of all before the rejuvenated House Committee on Science, Space, and Technology.—DSG

NSF Names International Chief

John Boright, former Science Counselor at the US Embassy in Paris, took office January 15 as Director of the International Programs Division of the National Science Foundation. He succeeds Bodo Bartocha, a veteran of international science affairs, who last fall joined the office of Arid Land Studies at the University of Arizona.

Boright has been succeeded in the Embassy post by Allen L. Sessoms, former head of the State Department's Office of Nuclear Technology and Safeguards, a job once held by Boright.

Meanwhile, a decision is nearing on whether NSF will continue to maintain its recently revived Paris outpost. Stationed there as NSF European Representative is Manfred J. Cziesla, who was the US Science Attache at UNESCO until he was switched to NSF duties last May following the US pullout from UNESCO.

With the falling dollar raising the costs of foreign outposts, NSF is pondering the value of a man in place versus short-term visits from Washington headquarters. Off and on over the years, NSF has maintained representatives in several major foreign capitals; the list is now down to Paris and Tokyo.

Senate Chairmen Named

The following Subcommittee Chairmen have been selected by the Senate Commerce, Science, and Transportation Committee, a major forum for science-policy issues on Capitol Hill:

Aviation: Wendell Ford (D-Ky.); Foreign Commerce and Tourism: John D. Rockefeller IV (D-W. Va.); Communications: Daniel K. Inouye (D-Hawaii); Consumer: Albert Gore Jr. (D-Tenn.); Merchant Marine: Lloyd Bentsen (D-Tex.); Science, Technology, and Space: Donald W. Riegle Jr. (D-Michigan), and Surface Transportation: J. James Exon (D-Nebraska).

Senator Ernest Hollings (D-SC), Chairman of the overall Committee, will also chair the National Ocean Policy Study that the Committee is undertaking.

. . . NIH Spending Soothes Congressional Consciences

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Wyngaarden. We lost our share. We lost $234 million in the initial cutback, but after that, the budget increase was spectacular. I think the Congress recognizes that we have many more good opportunities than we're able to fund. Some members of the Congress have frankly said that they're called upon to vote so much money for potentially destructive purposes that they have to balance their own psychological ledgers by also voting substantial funds for programs that they feel will do good for people.

SGR. *Quite a lobbying effort was mounted by NIH's constituents last year when the Administration presented a budget that provided for virtually no increase in 1987 spending, plus quite a few cuts in programs.*

Wyngaarden. It was very effective. The Congress hears scientists themselves, and they make a valid case, but they're always a little bit suspect, because in a way, it's special pleading. Their own livelihoods depend on the budget. So there's a lot of interest in Congress in the more general kinds of representations. These are made by the professional societies and the voluntary health agencies, and very particularly, the coalition of professional societies that has formed for support of biomedical research. Last year, something like 160 professional societies signed on to what they called an alternative budget. And then there's the Delegation for Biomedical Research, a collection of very distinguished scientists, many of them Nobel laureates, who appear each year, and Congress is always very attentive to these representations.

International Prestige

SGR. *Is there anything that can derail Congressional affection for health research? Why should health research, among many desirable social goals, be given favored treatment?*

Wyngaarden. There is a very deep sense of appreciation of the value of basic research, not just health, but in general. The Congress and the Administration subscribe to that. In the case of health, they have an objective that is pretty high on everyone's own personal priority list. And we have an opportunity in this country to make enormous contributions, not only for our own citizens, but for the people of the world. So, this has a diplomatic value; it has prestige value for the United States to be the leader in this field.

Not least, this research has contributed to an entire new industry, biotechnology, which at present is one in which we still lead the world, though the competition there is intense. And I think the Congress realizes that if we're going to stay ahead in these fields, we do it not by better marketing techniques, or more efficient manufacturing practices, but we do it by creating more new knowledge than our competitors do.

SGR. *There was pressure from the White House Science Office when [George A. "Jay"] Keyworth headed it [1981-86] for NIH to help the biotechnology industry directly.*

Wyngaarden. It was always difficult for me to understand exactly what Jay was saying. He felt that NIH ought to broaden its sense of mission. After all, our Congressional mandate is pretty simple—it's to conduct research of potential benefit to the health of people, and related training.

Biotechnology Role Unchanged

It doesn't say anything about industry, although there's no question that the research that NIH has conducted and supported has supported the pharmaceutical industry in a very large way, and others as well. I think Jay felt that we ought to take this on as a somewhat more conscious aspect of our sense of mission. We did examine that in considerable detail [June 24-25, 1985, at at a meeting of the Advisory Committee to the Director of NIH]. The people we assembled, including members of industry and many others, felt that we could best meet that objective by being ourselves. "Let NIH be NIH," is the way Ted Cooper [Vice Chairman of the Board, Upjohn Co.] put it—that as long as we were committed to the development of new knowledge, there would be a continual flow of new ideas, new processes, and new technologies that industry could pick up and use.

There was no support for the idea that we should consciously direct our efforts toward developing knowledge that would be useful for products. It was felt that that would be a byproduct of our doing what we do best.

The only point of disagreement we had was on the question of training process engineers. Small companies felt that there was a serious shortage of that kind of person, and that NIH could be helpful by spending more time on training such people and also on conducting what was referred to as "generic applied research." The large companies, on the other hand, felt we should stay out of that. They pointed out that for them, the opportunity to patent a process was just as important as patenting a product. So, we have never resolved that question. We haven't done anything differently as a result of that discussion.

SGR. *Does this mean that the issue has been set aside?*

Wyngaarden. Set aside in the sense that we thought we had a definitive answer, except for that one aspect, and the answer was, don't change what you're doing.

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. . . Scientific-Fraud Cases Erode Public Confidence

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SGR. *You've said in the past that the issue of scientific fraud could erode public confidence in science.*

Wyngaarden. The Institute of Medicine has an ongoing inquiry into some of the behavioral practices of scientists, plus the issue of what constitutes a sufficient contribution to warrant inclusion of an individual as a co-author. That's never been a matter of any uniform declaration. It's a matter of practice in an individual laboratory. There are some service chiefs who feel that their names should go on anything done in their department or at least everything in their division. Some defend that in terms of the influence they've had on the work, whether or not they've been directly involved in it. Others feel that it's a practical point, that it helps to generate the support necessary to carry forward the work in the entire unit.

Co-Authorship Criteria

Other have very stringent views of that. That one can thank people for small contributions, in a footnote, but that co-authorship should represent a very substantial personal involvement in the project. I've always inclined to that latter view.

One would like to think that every co-author felt very comfortable with all the data in the paper. When you have collaborative work involving scientists from different disciplines, that's no longer really possible. So, you then have to have some sort of general confidence that whoever is primarily responsible for the other work has the same standards that you do. That's difficult to put on paper, but the IOM is making an attempt.

I think that kind of statement and others on related issues may help to set a certain tone so that we can all measure performance against it. At present we don't have that. There's an unstated ethic of science, to be sure, and nowhere would anyone condone dishonesty or plagiarism or falsification of data, but we do need something better than what we have.

SGR. *The fraud case that was reported last fall at the San Diego Medical School (SGR Vol. XVI, No. 17) revealed a system that essentially had no internal safeguards—and that point was stressed by the university's own investigating committee.*

Wyngaarden. You will find examples of that. That's what I was alluding to in saying that when those examples come to light, and are appropriately publicized, that does erode the confidence of the American people in science and the scientists. And I think we have to be much more vigilant.

SGR. *What about the internal mechanisms here at NIH. As we've reported in SGR (Vol. XVI, Nos. 17-19), a case involving serious allegations of misconduct at Cornell Medical College remains unresolved since 1982.*

Wyngaarden. I was personally not aware of that until you wrote about it. I've looked into it some. That case was one where at each step of the process, something happened and it had to go back for another review; or it was thought to have been completed and it wasn't quite. And then with changing personnel, it did fall between the cracks. It got picked up again, but at a time when we were having a flurry of what seemed to be more pressing [misconduct] cases, this one, somehow, slipped to the bottom of the pile. And a lot of time went by.

SGR. *Will it be finished soon?*

Wyngaarden. I think so. Dr. [William F.] Raub [Deputy Director of NIH, formerly Deputy Director for Extramural Research and Training] has been taking this up with more vigor.

SGR. *Is more attention going to be paid to misconduct cases?*

Wyngaarden. I think so. This is a learning process for us, as well. We've instituted many things that were not here even four years ago when I arrived. We've had more experience with such processes. It has helped us develop our own internal guidelines for how we deal with such matters.

Plight of Older Scientists

SGR. *Don Fuqua [Florida Democrat who retired last year as Chairman of the House Science and Technology Committee and Chairman of the Committee's Science Policy Task Force] recommended in his valedictory that "more effort should be made to discontinue support of marginally productive researchers" in the biomedical fields.*

Wyngaarden. My concern is not that we're not weeding out the weaker producers, but that we are trimming too severely. There are some very effective producers, scientists capable of doing excellent science, who are not supported because of the budgetary stringencies. When I was at Duke, I knew of some scientists who were perhaps between periods of maximum productivity, who had done good things, and, as so often happens in the life of a scientist, for a year or so things would not work quite so well. Those people would oftentimes find themselves at the stage of reapplying just when they were in one of these hiatus phases, and it would be more difficult.

I know some individuals who have been very productive over many years and who now in mid-career are not being supported. I don't know whether their work is no longer as vital as it once was. But these are people highly

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. . . Helping Young Grant Seekers Under Tight Budgets

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respected in the field who are having trouble getting some support.

SGR. *The NIH award system is not weighted against the younger investigators, is it?*

Wyngaarden. No, as a matter of fact we are concerned that we introduce continually a fair share of first time and young applicants. We have introduced a special flagging of some of these applications. Our study sections are aware they are first-time applicants. They take that into consideration—not that that should outweigh the objective evaluation of what they're doing. But if they're just on the edge, they ought to be encouraged. We have what we call the FIRST awards that provide for First Independent Research Since Training. They provide a five-year period of award at a fixed amount of money. If that's not adequate for the project, the applicant can come in for a usual award instead. So, we've tried to keep an eye on that. We know, for example, that the percentage of first-time applicants is related pretty directly to the award rate.

If we're funding 45-50 percent of approved applications, then we have maybe as many as 15 percent of applicants who are first timers. When we get down to around 30 percent approvals, where we have been recently, that number may drop as low as 8 or 10 percent.

Dependence on Foreign Manpower

SGR. *Has there been a decline in the number of promising people coming into biomedical research?*

Wyngaarden. The overall answer is no. But there's a fairly serious problem in the United States as a whole in terms of science and engineering talent. The life sciences have not felt this as severely as others. The remarkable change in the last couple of decades has chiefly been the declining interest of the traditional worker of American science and engineering, the white American male. There's been some increase in the entry of women into the field, and some improvement in the entry of minorities. But in terms of black minorities, that increase was a decade or more ago, then it leveled off, and it recently has been in some decline. If you look at the minority figures in general, they don't look quite so alarming, but that's chiefly because of the Asian-Americans who are coming in in increasing numbers.

None of these improvements comes close to compensating, even in the aggregate, for the decline in the entry of the white American male into science and engineering. There has been a considerable influx of foreign talent. We began a review of this topic at the National Academy of Sciences thinking there was so much foreign talent coming into the United States that maybe these individuals were depriving our own citizens of opportunity. We very quickly changed our view on that—that wasn't the problem at all. The problem, if there was one, was our excessive dependence on the foreign scientists.

SGR. *What do you mean by excessive? They certainly can't all be called home.*

Wyngaarden. As long as the world is as open as it is today, that's fine. But major world events could change that in a hurry. That's what we're concerned about.

SGR. *Will market forces produce a solution?*

Wyngaarden. The marketplace does influence career decisions, but the lag phase is rather long and the projections that NSF have presented [for the Academy study] suggest that we're going to have a substantial shortage of scientists in the next 10-20 years, unless something is done to change this degree of interest.

SGR. *This Administration is not likely to favor a government response to the problem.*

Wyngaarden. I'm not totally sure of that. There has always been a degree of intervention, by this or any other Administration, in the investment and training of scientists and engineers. I wouldn't presume that we won't have a sympathetic ear.

AIDS Budget to Grow

SGR. *Do you expect political pressure to build up for a much larger AIDS research program?*

Wyngaarden. We have the report of the Institute of Medicine on AIDS, and they advocated $1 billion a year for biomedical research and another $1 billion for information dissemination by 1991. We're taking that seriously. If you take the growth of the NIH budget in the last few years, and look at the commitments generated from that, we would be getting rather close to those ultimate figures by 1991, in the Public Health Service as a whole. We have taken that document and looked at it line by line. We've asked for projections on what expanded activities in AIDS could be envisioned and justifiably promoted. We've been asked for that information by the Department and by OSTP (White House Office of Science and Technology Policy).

SGR. *You recently made your first visit to the Soviet Union.*

Wyngaarden. At the end of November, we visited several scientific institutes in Moscow and Leningrad connected primarily with cancer and cardiovascular research, rheumatology, and we visited the Pavlov Institute in Leningrad.

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. . . Cautious Approach on Expanding Ties with Soviets

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***SGR.** Many people in this Administration say the Russians have almost nothing to teach us in research. What was your impression?*

Wyngaarden. It is not a symmetrical situation. They do have some very good individual workers. I think it is possible to arrange some studies that would be of some value to us. For example, the circulatory-assist device has been a very active field in the Soviet Union. The Russians put an enormous emphasis on engineering, some of it in biomedical engineering. They have shared some of these developments with us. It's been mutually beneficial. In the cancer field, if we can get them to agree to adhere to a joint protocol, there could be joint clinical trials of new agents. This was attempted in the past and didn't go very well. We're making another attempt at that. There are epidemiological studies from which we could learn a lot. We were shown rather interesting data on the incidence of various cancers in several of the republics of the Soviet Union. There's an enormous diversity. Now, whether that's a true difference in disease incidence or some sort of reporting artifact, we don't know, but it's well worth pursuing. The major problem is that the Soviet Union is not an open society. In fact, we frequently know more about what's going on in their various laboratories than they know about each other.

Soviet Labs Poorly Equipped

***SGR.** What was the state of their laboratories?*

Wyngaarden. In general, rather dreadful. We were shown laboratories that were even more primitive than the ones that I saw when I was a medical student at the University of Michigan in the early 1940s. They've not advanced even to that stage. Here and there you see, within all of this primitive environment, a modern centrifuge or something like that, but in general it was poor.

Now, there are exceptions to that. The Heart Institute headed by [Evgeny I.] Chazov is a showplace. It has everything you might need. The institute in Moscow headed by [Nikolai N.] Blokhin also is quite well equipped. It looks better from the outside than the inside, however. When we approached it, we recognized it was quite a new place. When we got inside, we began to wonder whether they had put a veneer on an old building. We asked them when the building had been opened. It was 1981. It looked to me something like the Boston City Hospital in the '40s in style. The workmanship, the door casings, was atrocious. In general, what we see is that this has not been an area of extraordinary priority for the Soviets. We know it is essentially a military society and their primary emphasis has been elsewhere.

***SGR.** Given all this, it would seem that the opportunities for meaningful scientific collaboration are limited.*

Wyngaarden. We agree. They probably are. On the other hand, General Secretary Gorbachev has taken steps toward a new shape of Soviet society, and is making some efforts toward a more open society. Changing that is going to be very difficult, but if it's possible to make a contribution toward a more open society by increasing the contacts with the West, and if the scientific community can participate in that, I think that's worthwhile. We will get something from it, but we are going to be cautious and not giving a great deal more than we get.

***SGR.** Will more Soviet researchers be coming here?*

Wyngaarden. Yes, quite likely. We have had an agreed-upon number of man-months per year. We've never reached that, and it was cut back even from the pre-existing level in 1979 to a very low level. We're going to increase that, if we can. What we would like to see, of course, is young Soviet scientists in a formative stage of their careers coming over to work with American scientists. What happens instead is that the chance to visit the West is oftentimes a perk for someone rather high in the system who comes for a very short time and then we never see that person again. That's not a good way for collaboration to be built. So, we're wary, but we're willing to give it another chance.

In Print: GAO Index, Export Controls, R&D Data, Etc.

The following publications are obtainable as indicated in the boldface headings—not from SGR.

From US General Accounting Office, PO Box 6015, Gaithersburg, Md. 20877; tel. 202/275-6241.

Annual Index of Reports Issued in FY 1986 (82 pages, no charge). GAO, Congress' own investigative and auditing service, has recently expanded its scrutiny of federally supported research-related activities, as reflected in this debut of a separate annual index of all GAO reports. Though generally written in governmentalese opaque, GAO literature is respected and influential in the legislative process. Under three separate headings, Science, Space and Technology; Energy; and Natural Resources and Environment, the entries range over some 140 topics, including university finance, biotechnology, nuclear regulation, and hazardous wastes. Directions included on how to order copies of the reports.

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From National Academy Press, National Academy of Sciences, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-3313.

Balancing the National Interest: US National Security Export Controls and Global Economic Competition (available in mid-February, 177 pages, plus appendixes, $25.95). Pentagon hardliners tried to derail and are now trying to discredit this myth-busting study because it shows that hamhanded export controls are costing the US billions in sales and thousands of jobs with little loss to the Soviets. Conducted for the Academy by a 21-member panel chaired by former Air Force Chief of Staff Lew Allen Jr., the study was promised DOD cooperation, but got the cold shoulder when the panel refused to swallow the Pentagon line.

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From National Science Foundation, Division of Science Resources Studies, 1800 G St. NW, Washington, DC 20550; tel. 202/634-4622.

Science and Technology Data Book (45 pages, no charge). A pocket-size distillation of basic statistics about R&D expenditures, manpower, education, etc., plus international comparisons and a short bibliography of NSF reports on these subjects.

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From Gale Research Co., Book Tower, Detroit, Michigan 48226; tel. 313/961-2242.

Directory of Special Libraries and Information Centers, 10th Edition (Volume 1, 1888 pages, $335.00, lists 18,000 special libraries in the US and Canada; Volume II, 925 pages, $275.00, contains a geographic and personnel index of libraries).

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From The Conference Board, Inc., 845 Third Ave., New York, NY 10022; tel. 212/759-0900.

Locating Corporate R&D Facilities (21 pages, $15 for Board members; $60 for non-members), report based on an NSF-supported study in which the Board, a non-profit organization that provides information services for industry, surveyed 158 firms that have constructed R&D facilities during the past decade. Among the findings: half the firms prefer R&D facilities close to corporate headquarters—defined as no farther than 30 miles away; job opportunities for spouses are increasingly important in site selections, as are "quality of life" and proximity of academic and research centers. At the bottom of a list of 20 site-location concerns: weather.

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From Organization for Economic Cooperation and Development, sales offices in many cities around the world, including, OECD, Suite 1207, 1750 Pennsylvania Ave. NW, Washington, DC 20006; tel. 202/724-1857.

STI Review, ($30 a year) a new, twice-a-year journal on science, technology, and industry, devoted, according to an OECD announcement, to "understanding of the complex relations between technology, production structures, economic growth and international competitiveness."

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From US Government Printing Office, Washington, DC 20402; tel. 202/783-3238.

Children's Mental Health: Problems and Services (GPO Stock No. 052-003-01040-2; 184 pages, $8.00), a report by the Congressional Office of Technology Assessment, requested by Senators Mark Hatfield (R-Oregon) and Daniel K. Inouye (D-Hawaii). Prepared by a panel chaired by Lenore Behar, Chief of Mental Health Services, North Carolina Dept. of Human Resources, the report estimates that 7.5 million of the nation's 63 million children "suffer from emotional or other problems that warrant mental health treatment," but that some three-quarters of them "may not be getting appropriate mental health services."

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